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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/945,349	08/31/2001	Charles J. Flynn	P 34062 272093	1484

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Pillsbury Winthrop LLP  
Intellectual Property Group  
50 Fremont Street  
San Francisco, CA 94105

EXAMINER
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ANGEBRANNDT, MARTIN J

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/945,349

Applicant(s)

FLYNN, CHARLES J.

Examiner

Martin J Angebranndt

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 18-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-32 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

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1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-17, drawn to a methods of preparing artwork including subsequently forming a laser foil die, classified in class 430, subclass 320.
  - II. Claims 18-24, drawn to a computer readable medium bearing a program to direct a computer to forma laser die image, classified in class 345, subclass 419.
  - III. Claims 25-28, drawn to a laser foil die based embossing system, classified in class 425, subclass 406.
  - IV. Claims 29-32, drawn to a laser foil die, classified in class 101, subclass 28.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions group I and group II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process made be preformed by hand or may be entered into the computer using typing of the like.
3. Inventions I and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions the process for drafting artwork for making the laser die is unrelated to the apparatus for its use.
4. Inventions group I and group IV are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as

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claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case there need not be any preliminary artwork to form the die and it could be mechanically scribed/ruled as traditionally grating were.

5. Inventions group II and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions the article for drafting artwork for making the laser die is unrelated to the apparatus for its use.

6. Inventions group II and group IV are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case there need not be any preliminary artwork to form the die and it could be mechanically scribed/ruled as traditionally grating were and also the software for

7. Inventions Group III and Group IV are related as combination and subcombination and are not separable at this time.

8. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification and their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

9. During a telephone conversation with Victor Castellucci (43,535) on March 15, 2004 a provisional election was made without traverse to prosecute the invention of group I,

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claims 1-17. Affirmation of this election must be made by applicant in replying to this Office action. Claims 18-32 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1,8,,10 and 12 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Hochberg '448.

Hochberg '448 describes the use of separation transparencies/masks to produce a screened image where different gratings are formed on a single photosensitive substrate, which is developed and then electroformed to make and embossing master. (4/46-6/43).

13. Claims 1 and 3-16 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Lee et al. '479

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Lee et al. '479 teach that for a black and white image, the chroma or color value may be a greyness factor. (2/45-47). The image is imputed into a computer using a digital camera and pixellated on the basis of grey level. Figure 2 shows the convolution of the grating with the image with 14 grey levels. (4/6-33) The grating of figure 2 was written into a PMMA resist using an electron beam, which was then used to produce a nickel embossing master which can be used to mass produce the result into plastic films. (5/49-55). After scanning the image into the computer, the image is digitally screened to form pixels and then the pixels data are converted into the appropriate grating pixels. (6/5-11). There may be any number of grey values such as 1-7 or 1-16. (2/45-47). The measurement of chroma or color value is also disclosed. (2/34-44).

The limiting of the greys to 14 levels in figure 2 is held to be within the scope of posterizing. The term "prism lines" is held to embrace relief gratings (note the shape of the grating features in Kubo et al. '494.).

14. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. '479.

It would have been obvious to one skilled in the art to modify the process of Lee et al. '479 with respect to figures 1 and 2 by beginning with a color image and measuring the chroma/color value and converting this to a grey level based upon the use of monotone images within the reference, but including the measurement of color/chroma. The image is of Queen Elizabeth II, who is full color in person, but the choice has been made to set the image as a series of grey levels. This fact is held to support the examiner position concerning the obviousness of reducing a full color image to a series of grey values.

15. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. '479, in view of Kubo et al. '494.

Kubo et al. '494 teach the formation of blazed grating by etch transferring the pattern into the substrate. (see figures 2a-e, 5a-e and 6a-f)

It would have been obvious to one skilled in the art to modify the process of Lee et al. '479 as discussed above by forming the nickel master using the etching techniques of Kubo et al. '494 with a reasonable expectation of forming a useful nickel master bearing grating patterns.

16. Claims 1,7-12 and 15-16 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Takahashi '992.

Takahashi '992 teaches with respect to figure 3 and 4, and 9an image scanned into the computer, image manipulation of smooth the edges of the features, the grating dot data is determined, the dry plate exposed and may be used for copying by embossing. (6/20-7/14 and 4/36-5/59, particularly 5/56-59). Note images in figures 8,11 and 12.

17. Claims 1,7-12 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reber '511.

Reber '511 teaches the formation of the pattern using CAD design techniques, including the patterns and the grating parameters, which are then written onto a computer tape (pattern generation tape). (3/67-4/26) This is then input into an e-beam writer to write the pattern into the resist, which is then developed and used to etch the underlying areas of the coating (14 in figure 1b) (4/43-5/14). The techniques are also discussed in column 5 at lines 23-58

It would have been obvious to one skilled in the art to use the process disclosed including the etching transfer of the pattern into layer 14 to produce an article having multiple diffraction

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patterns, such as that disclosed in figure 2f with a reasonable expectation of success based upon the disclosed process being taught to form any of a variety of grating patterns.

18. Claims 1,7-9,12 and 15 are rejected under 35 U.S.C. 102(b) as being fully anticipated Yoshitake et al. '078.

Yoshitake et al. '078 teach screening the display pattern to form a fine pattern of pixels (2/13-18). A display pattern, such as a character or image is divided into small regions and the regions assigned different grating patterns (2/64-3/12). The different grating patterns are formed by selective masking of the photosensitive material during processing (3/23-53, figures 15Aa-bj). The process including the formation of an embossing die is disclosed. (11/1-41). See also (14/51-60)

The process set forth in column 11 (cited) is held to anticipate the invention.

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Antes '003 teaches the formation of pixellated grating images.

Kellie'575 teaches forming different grating patterns on the same photosensitive medium (figures, particularly figure 10)

Newswanger '317 discloses the creation of artwork by hand or on the computer and the modification of the image to be specific to the event which the ticket is for on a computer is disclosed. (4/62-5/7). The exposure and development of the grating image using a two beam exposure is disclosed. (5/8-6/35 and 4/33-61) The development and formation of embossing or stamping means is disclosed. (4/56-61 and 6/36-7/24)

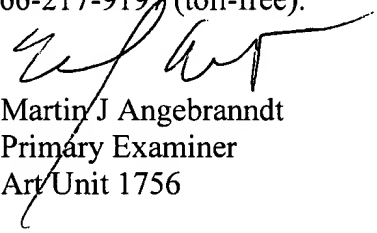
Lee '969 and Lee '775 are cumulative to the above references.



20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J Angebranndt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Martin J Angebranndt  
Primary Examiner  
Art Unit 1756

03/18/2004